

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	
LightSquared Request to Modify Its ATC)	IB Docket No. 12-340
Authorization)	
)	IBFS File Nos. SAT-MOD-20120928-
)	00160; SAT-MOD-20120928-00161;
)	SAT-MOD-20101118-00239; SES-MOD-
)	20121001-00872
)	
LightSquared Technical Working Group)	IB Docket No. 11-109
Report)	
)	DA 16-442

REPLY COMMENTS OF TRIMBLE NAVIGATION LIMITED

Trimble Navigation Limited (“Trimble”) submits these reply comments in response to the recent pleadings filed by Ligado Networks LLC (“Ligado”) in connection with the Public Notice^{1/} released in the above-captioned proceeding by the Commission’s International Bureau, Office of Engineering and Technology, and Wireless Telecommunications Bureau seeking comment on applications for modification submitted by Ligado to its Mobile Satellite Service (“MSS”) licenses.^{2/} As Trimble noted in its comments, it supports Commission grant of those aspects of the Modification Applications set forth in Trimble’s Agreement with Ligado (the “Agreed Licensing Conditions”), as an integrated package. However, in acting on the Modification Applications, the Commission need not, and should not, reach any general

^{1/} See Comment Sought on Ligado’s Modification Applications, Public Notice, DA 16-442 (rel. Jun. 22, 2015) (“Public Notice”).

^{2/} See Applications of LightSquared Subsidiary LLC, Narrative, IBFS File Nos. SAT-MOD-20151231-00090, SAT-MOD-20151231-00091, and SES-MOD-20151231-00981 (“Modification Applications”). In these comments, we use the term “Ligado” to refer to New LightSquared and its subsidiary LightSquared Subsidiary LLC.

conclusions regarding the appropriate metrics for determining when communications operations in nearby spectrum bands may affect Global Navigation Satellite Systems (“GNSS”).

REPLY COMMENTS

First, Ligado suggests that the power and out of band emission limits (“OOBE”) proposed in the Modification Applications, and based on agreements with Trimble and others, protect existing global positioning system (“GPS”) devices from actual interference.^{3/} However, the Commission should view this assertion in the context of the overall package of terms and conditions set forth in Trimble’s agreement with Ligado. To be clear, the operating conditions for the 1627.5-1637.5 and 1646.5-1656.5 MHz bands and proposed limitations on operations in the 1545-1555 MHz band in Trimble’s agreement with Ligado in particular represent a compromise that reflects, among other things, a reasonable level of protection of GPS devices, particularly considering the time period in which utilization of the spectrum will occur, and the public interest in increasing the efficiency of spectrum utilization.^{4/} The agreements also provide the benefit of certainty regarding Ligado’s proposed operations.

Second, Trimble continues to disagree with the methodology used in the testing performed by Roberson and Associates (“RAA”) and the conclusions RAA reached as a result of that testing (the “RAA Report”) concerning the impact of communications operations on GNSS systems.^{5/} Ligado’s comments note that RAA examined Key Performance Indicators (“KPIs”)

^{3/} See Comments of Ligado Networks LLC, IB Docket Nos. 11-109, 12-340, at 4 (filed May 23, 2016).

^{4/} Trimble does not support the adoption of Ligado’s proposals for the use of the 1526-1536 MHz band, but Trimble continues to discuss licensing conditions for that band with Ligado. See Comments of Trimble Navigation Limited, IB Docket Nos. 11-109, 12-340, at 2 (filed May 23, 2016) (“Trimble Comments”).

^{5/} See Ligado *Ex Parte*, IB Docket No. 11-109, Attachment A (filed May 11, 2016).

to assess whether a proposed power and OOB level would pose harm to GPS devices. RAA also specifically rejects use of an increase of 1 dB in C/N_0 caused by terrestrial systems to determine whether there will be harmful interference to GPS devices.^{6/} As Trimble stated in its comments, Ligado and Trimble, among others, have “agreed to disagree” on important policy issues regarding the appropriate standard for determining whether harmful interference exists as a general matter.^{7/} Trimble’s comments also explained in detail why the use of these KPIs do not provide a reliable basis for determining whether harmful interference has occurred in particular use cases.^{8/} Trimble therefore opposes any Commission action premised on the proposed standard for harmful interference set forth in the RAA Report. The Commission may, and should, act on the Modification Applications without reaching the broader issues presented by potential endorsement of a methodology for assessing interference.^{9/} Ligado concurs, saying that it agrees with Trimble that “granting the Modification Applications does not necessarily require the Commission to rule definitively on whether measuring KPIs or a 1 dB change in C/N_0 is the appropriate method for determining harmful interference in all cases.”^{10/}

CONCLUSION

Trimble continues to support the adoption of the Agreed Licensing Conditions as an integrated package and as further detailed in Trimble’s agreement with Ligado. Taken as a

^{6/} *Id.* at Attachment A, 5.

^{7/} *See* Trimble Comments at 4.

^{8/} *See id.* at 17, n.36.

^{9/} Trimble also notes that both the Department of Transportation and National Institute of Standards and Technology are conducting studies regarding the means by which harmful interference should be assessed in general. Any Commission decision on these broader issues should be informed by those studies.

^{10/} Reply Comments of Ligado Networks LLC, IB Docket Nos. 11-109, 12-340, at 13 (filed Jun. 6, 2016).

whole, the Agreed Licensing Conditions represent a compromise which balances the competing public policy interests raised by Ligado's proposed use of its licensed spectrum. In making that determination, the Commission should not adopt the criteria and analysis employed by Roberson and Associates.

Respectfully Submitted,

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